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TRIANGLE ROAD SIGN WITH SOLAR POWER-DRIVEN FLASHING LIGHT MEANS

BACKGROUND AND SUMMARY OF THE INVENTION

The present invention relates to a triangle road sign, and more particularly to such a triangle road sign, which comprises a flashing light circuit assembly selectively driven by solar power, battery power, or alternating current power source to give a flashing warning signal.

A conventional triangle road sign 8, as shown in Figure 1, is generally comprised of a left frame bar 81, a right frame bar 82, a bottom frame bar 83, a stand 84, and reflectors 811, 821 and 831 respectively covered on the frame bars 81, 82 and 83. This structure of triangle road sign 8 is less effective because it can only give a static warning signal.

15 It is one object of the present invention to proivde a triangle road sign, which is folding collapsible. It is another object of the present invention to provide a triangle road sign, actively gives a warning signal. It is still another 20 object of the present invention to proivde a triangle road sign, which selectively uses solar power, power, or solar power source to drive flashing light circuit means to give a flashing warning According to one aspect of the present invention, 25 triangle road sign is comprised of a folding

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collapsible triangle rack formed of a bottom rack, left frame bar and a right frame bar, mounting means for securing the triangle rack to the inside of a car, flashing light circuit means mounted on the triangle and controlled to give a flashing warning signal, that converts and solar power circuit means energy into electricity for the flashing light circuit means. According to another aspect of the present invention, battery power supply and alternating current power adapter are provided and selectively controlled to provide the necessary working voltage flashing light circuit means. In an alternate o f form the present invention, the mounting means for securing the triangle rack to the inside of a car is eliminated, and a folding collapsible stand is provided to the triangle rack on the road.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is an elevational view of a triangle road sign according to the prior art.

Figure 2 is an exploded view of a triangle road sign according to the present invention (the top mounting device and the connecting members excluded).

Figure 3 is an assembly view of Figure 2, showing the left frame bar and the right frame bar 25 respectively pivoted to the bottom rack and extended out.

Figure 4 is a plain view showing the assembly

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of Figure 3 installed in a part inside a car.

Figure 5 shows the triangle road sign set in the operative position in a car.

Figure 6 is a front side view of the triangle road sign after removal of the top mounting device and the connecting members.

Figure 7 is a rear side view of Figure 6.

Figure 8 illustrates the triangle road sign installed in the car near the rear window according to the present invention.

Figure 9 is an elevational view of an alternate form of the triangle road sign according to the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to Figures from 4 through 8, a triangle road sign in accordance with the present invention is generally comprised of a bottom mounting plate 1, a bottom rack 2, a left frame bar 3, a right frame bar 4, a top mounting device 5, and two 20 connecting members 7.

The bottom mounting plate 1 has one side edge 11 hinged to the bottom rack 2, and a bottom side wall 12 fixedly fastened to a part 61 inside a car 6 near the rear window by adhesive or fastening members (see



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Figure 8). The bottom rack 2 comprises a transparent rack shell 20 hinged to the bottom mounting plate 1, solar collector panel 24 mounted on a front side of the transparent rack shell 20, a signal light 25 mounted in a back side of the transparent rack shell Figures 7 and 8), a control switch 27 mounted the transparent rack shell 20, a flashing circuit shown) installed in the transparent rack shell controlled by the control switch 27 to flash the signal light 25, a solar battery circuit (not shown) installed in the tansparent rack shell 20 and connected the flashing circuit and the solar collector panel throught he control switch 27 to convert solar energy collected from the solar connector panel electricity and to store the electricity thus for the flashing circuit and the signal light 25. indicator light 29, which indicated battery charging status of the solar battery circuit. а rechargeable battery (not shown) installed in the transparent shell 20 and controlled by the control switch 27 provide the necessary working voltage to the flashing circuit and the signal light 25, an alternating current adapter 28 installed in the transparent rack for receiving external alteranting current power supply to charge the rechargeable battery, and a battery box 26 installed in the transparent rack shell and controlled by the control switch 27 to provide the necessary working voltage to the flashing circuit and the signal light 25. The transparent rack shell 20 comprises two coupling notches 221 and 231 two distal ends thereof for receiving the left frame bar 3 and the right frame bar 4. The left frame 3 bar comprises a tansparent poda 30, a coupling 31



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extended from one end of the transparent body 30 and pivotally secured to one coupling notch 221 аt the tansparent rack shell 20 of the bottom rack 2 bу pivot 201, a signal light 32 installed in the back side of the tansparent body 30 and controlled by the control switch 27 to flash, a raised portion 34 raised from one end of the transparent body 30 remote from the coupling rod 31, and a locating ring 33 disposed near one end of the transparent body 30 adjacent to the raised portion 34 for the mounting of one 7. connecting member right frame bar 4 comprises a transparent 40, body coupling rod 41 extended from one o f end the transparent body 40 and pivotally secured one coupling notch 231 at the transparent rack shell 20 o f the bottom rack 2 by a pivot 202, а signal 42 installed in the back side of the transparent body 40 and controlled by the control switch 27 to flash, а recessed portion 44 formed o n one e n d o f the transparent body 40 remote from the coupling rod 41 for engagement with the raised 34 portion the transparent body 30 of the left frame 33, bar and locating ring 43 disposed near one end o f the transparent body 40 adjacent to the recessed portion 44 for the mounting of one connecting member 7. The mounting device 5 comprises a top 51 mounting plate fastened to the ceiling of the car 6 bу adhesive or fastening means. and bottom coupling 52 loop suspended from the top mounting plate 51 hold the connecting members 7. The connecting members 7 elastic members, each having one end terminating first hook 71 hooked on the bottom coupling loop 52 the top mounting device 5 and a bottom end terminating in a second hook 72 hooked on the locating ring 33



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43 at the left frame bar 3 or right frame bar 4.

When sunlight is available, the triangle road sign is put under the sun, enabling the solar collector panel 24 to collect the radiating energy of the sun for converting into electricity. When not in use, bottom mounting plate 1 and the bottom rack turned toward each other and closely attached together to minimize space occupation. When i n use, the left frame bar 3 and the right frame bar 4 are turned upwards from the bottom rack 2 toward each force the recessed portion 44 at the transparent 40 of the right frame bar 41 into engagement with the raised portion 34 at the transparent body 40 right frame bar 41 into engagement with the portion 34 at the transparent body 30 of the left frame bar 3, and then connecting members 7 and the mounting device 5 are fastened to the frame bars 3 4, and then the bottom mounting plate 1 and the mounting devide 5 are fastened to the inside of the car 6 to secure the triangle road sign in position, keeping the signal lights 25, 32 adn 42 facing the rear window of the car 6. By menas of operating the control 27, the signal lights 25, 32 and 42 are driven to give a flashing warning signal. The signal lights 25, 32 and 42 can be any of a variety of light emitting elements, for example, light emitting diodes.

Figure 9 shows an alternate form of the triangle road sign. This alterante form eliminates the aforesaid bottom mounting plate 1, top mounting device 5 and connecting members 7. Further, the bottom rack 2 of this alternate form is mounted with a folding

collapsible stand formed of two foot members 203 and 204.

It is to be understood that the drawings are designed for purposes of illustration only, and are not intended for use as a definition of the limits and scope of the invention disclosed.